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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

BELLO, AGUSTIN

ART UNIT PAPER NUMBER

2633

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/749,426

Applicant(s)

NISHIMOTO, HIROSHI

Examiner

Agustin Bello

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims use general terms such as "unit" throughout the claims to indicate different elements of the claimed invention, thereby causing one element to be indistinguishable from the next element. Furthermore, it is not clear what the applicant means by "some" or "part" of a plurality of signals.

3. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2633

5. Claims 1-7 and 9-13, as best understood by the examiner in view of the 112 rejections above, are rejected under 35 U.S.C. 102(e) as being anticipated by Fatehi (U.S. Patent No. 6,512,612).

Regarding claim 1, Fatehi teaches an apparatus, comprising: a unit (reference numeral DMU₁ in Figure 3A) inputting a part (e.g. λ_1 - λ_N) of a plurality (e.g. λ_1 - λ_{NK+0}) of input optical signals, outputting a part of a plurality of output optical signals, and isolating the part of a plurality of input optical signals and the output optical signals so as to switch and connect (via switch 201 in Figure 3A).

Regarding claim 2, Fatehi teaches the apparatus according to claim 1, further comprising: a wavelength demultiplexing unit (reference numeral DMU₁ in Figure 3A) demultiplexing an input wavelength-multiplexed signal into optical signals having a single wavelength (e.g. λ_1 - λ_N); and a wavelength multiplexing unit (reference numeral OMU₁ in Figure 3A) multiplexing the signals having the single wavelengths, which are switched and connected by said unit (reference numeral 201 in Figure 3A), into a wavelength-multiplexed signal (e.g. $\Sigma\lambda_i$ in Figure 3A).

Regarding claim 3, Fatehi teaches the apparatus according to claim 2 wherein said unit, to which optical signals are input, makes switching and connection in units of optical signals (as seen in Figure 3A).

Regarding claim 4, Fatehi teaches the apparatus according to claim 1, further comprising: an electro-optic converting unit (reference numeral 243 in Figure 2) converting an electric signal into an optical signal; and an opto-electric converting unit (reference numeral 242 in Figure 2) converting an optical signal into an electric signal, wherein said unit switches and connects the electric signals (via switch 247 in Figure 2).

Art Unit: 2633

Regarding claim 5, Fatehi teaches the apparatus according to claim 1, further comprising: an electro-optic converting unit (reference numeral 243 in Figure 2) converting an electric signal into an optical signal; and an opto-electric converting unit (reference numeral 242 in Figure 2) converting an optical signal into an electric signal, wherein said unit comprises at least one optical switch unit (reference numeral 201 in Figure 2) and at least one electric switch unit (reference numeral 247 in Figure 2), both of which independently switch input signals to output signals (as seen in Figure 2), and wherein said opto-electric converting unit (reference numeral 242 in Figure 2) inputs an electric signal to said electric switch unit (reference numeral 247 in Figure 2) and said electro-optic converting unit (reference numeral 243 in Figure 2) receives an electric signal from said electric switch unit (reference numeral 247 in Figure 2) and outputs an optical signal.

Regarding claim 6, Fatehi teaches the apparatus according to claim 1, wherein at least some of a plurality of units make switching and connection in units of wavelength-multiplexed signals (both switching units switch groups of wavelengths).

Regarding claims 7 and 11, Fatehi teaches the apparatus according to claim 1, wherein at least some of a plurality of units are through units which pass signals through unchanged without switching and connecting the signals (column 12 lines 10-16 and indicated by λ_1 being through connected by the optical switch).

Regarding claim 10, Fatehi teaches a signal switching and connection method for use in an optical node device having pluralities of signal inputs and outputs, comprising:

(a) inputting some (e.g. λ_1 - λ_N) of all (e.g. λ_1 - λ_{NK+0}) of signals that can be input to the optical node device; and

(b) switching, connecting, and outputting some of all of signals that can be output from the optical node device (via switch 201 in Figure 2), wherein all of the signals are switched and connected as a non-complete group switch by performing (a) and (b) for all of the signals input to the optical node device (via switching apparatus 201 in Figure 3A).

Regarding claim 12, Fatehi teaches that some (e.g. λ_1 - λ_N) of all of the signals (e.g. λ_1 - λ_{N+K+0}) input to the optical node device are switched and connected in units of wavelength-multiplexed signals (as seen in Figure 2).

Regarding claim 13, Fatehi teaches the signal switching and connection method according to claim 10, further comprising:

(c) passing others of all of the signals input to the optical node device through without switching and connecting the others of all of the signals (e.g. through signals as indicated by λ_1 in Figure 2):

(d) switching and connecting still others of all of the signals input to the optical node device in units of wavelength-multiplexed signals (switching of the other signals λ_2 - λ_N in Figure 2); and

(e) selecting any of (b), (c) , and (d) for all of the signals input to the optical node device (clearly any of the signal groups λ_1 - λ_N , λ_{N+1} – λ_{2N} etc can be used as the signals input to the node device).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2633

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi in view of Kaminow (U.S. Patent No. 5,623,356).

Regarding claim 8, Fatehi differs from the claimed invention in that Fatehi fails to specifically teach a distribution switch unit distributing signals to any of a plurality of units; and a selection switch unit selects and outputs signals output from the plurality of units. However, use of distribution switch units for distributing signals to any of a plurality of switching units and a selection switch units for selecting and outputting signals output from the plurality switching units are well known in the art. Kaminow, in the same field of endeavor, teaches it is well known in the art to use distribution switch units for distributing signals to any of a plurality of switching units and a selection switch units for selecting and outputting signals output from the plurality switching units (Figure 3). One skilled in the art would have been motivated to use such a configuration in order to allow more flexibility in the switching variations possible. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use distribution switch units for distributing signals to any of a plurality of switching units and a selection switch units for selecting and outputting signals output from the plurality switching units.

8. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi.

Regarding claims 9 and 14, Fatehi differs from the claimed invention in that Fatehi fails to specifically teach a plurality of optical ADMs, wherein a dropped signal from the optical ADMs is input to said unit, and an output from said unit is added to the optical ADMs. However, optical ADMs are very well known in the art and could have easily been coupled to

Art Unit: 2633

system of Fatehi. One skilled in the art would have been motivated to couple an ADM in order to switch the dropped signals to respective outputs or to switch respective inputs to particular optical paths. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have coupled an ADM unit to the switching unit of Fatehi.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Huber, Alferness and Wang teach relevant art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (703)308-1393. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

AB


JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600